THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

BOARD ACTION

- **Board of Directors**
  Engineering, Operations, and Technology Committee

6/13/2023 Board Meeting

7-2

Subject

Amend the Capital Investment Plan for fiscal years 2022/2023 and 2023/2024 to include three projects: (1) Jensen Administration Building column panel replacement; (2) Skinner chemical storage tanks replacement; and (3) Auld Valley and Red Mountain Control Structures upgrade; and award a $281,900 contract to MMJ Contracting Inc. to replace the existing entrance column panels at the Jensen Administration Building; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

This action amends the Capital Investment Plan (CIP) to include three rehabilitation projects: (1) replacement of the column panels at the main entrance of the Administration Building at the Joseph Jensen Water Treatment Plant (Jensen plant); (2) replacement of the existing sodium hypochlorite storage tanks, which are prone to leaks, at the Robert A. Skinner Water Treatment Plant (Skinner plant); and (3) upgrade of the Auld Valley and Red Mountain Control Structures. This action also awards a contract to replace the existing deteriorating entrance column panels at the Jensen plant's Administration Building.

Details

Background

In April 2022, the Board appropriated funds and authorized the General Manager to initiate or proceed with work on all capital projects identified in the CIP, subject to any limits on the General Manager's authority and CEQA requirements. During the course of the two-year CIP budget cycle, staff may identify the need to commence work on new projects that were not originally included in the Board-authorized CIP. Additionally, in some cases, smaller projects that were initially intended to be completed as a minor capital project with a budget of less than $400,000 under the General Manager's authority are determined to have planned capital expenditures that will exceed this authority. In both of these cases, staff will recommend that the Board amend the current CIP to add these projects.

This action amends the CIP to include three new projects: (1) a project to replace the entrance columns panels at the Jensen plant's Administration Building; (2) a project to replace the existing sodium hypochlorite storage tanks at the Skinner plant; and (3) a project to upgrade the Auld Valley and Red Mountain Control Structures. Project No. 1 was originally initiated as a minor capital project; Projects Nos. 2 and 3 were recently identified as new projects that should proceed immediately. Staff also recommends award of a construction contract to replace the column panels at the Jensen plant's administration building at this time.

Budget Impact

It is not anticipated that the addition of these projects to the CIP will increase CIP expenditures in the current biennium beyond those which have been previously approved by the Board. Anticipated expenditures for these projects are approximately $1.68 million of capital funds. Approximately $1.40 million will be incurred in the current biennium. The remaining capital funds will be funded from future CIP budgets, following board approval of these budgets. These projects have been reviewed in accordance with Metropolitan's CIP prioritization criteria and were approved by Metropolitan's CIP Evaluation Team to be included in the Treatment Plant Reliability Program (Projects No. 1 and 2) and the Distribution System Reliability Program (Project No. 3).

Project No. 1 – Jensen Administration Building Column Panel Replacement – Design and Construction

Located in the community of Granada Hills, the Jensen plant was placed into service in 1972, has a current treatment capacity of 750 million gallons per day (MGD), and treats water from the West Branch of the State Water Project (SWP).

The Jensen Administration Building is a three-story reinforced concrete building built in 1970 as part of the original plant construction. The administration facility houses the plant's control room, incident command center, water quality laboratory, and administrative offices. The structure was strengthened in 2010 to withstand a major seismic event. During the seismic strengthening project, the eight columns which support a clerestory roof at the entrance of the building were reinforced and covered with glass fiber-reinforced concrete (GFRC) panels. These panels are made of a cement-based composite material, reinforced with alkali-resistant glass fibers.

The GFRC panels have cracked due to weathering, expansion, and contraction caused by temperature fluctuations, and due to movement caused by seismic vibrations. While these cracks do not impact the structural integrity of the building, the GFRC panels require replacement to protect the steel columns from corrosion and maintain the appearance of the building entrance. Final design for replacement of these panels was completed under a minor capital project. However, the project costs are now projected to exceed the project cost limits of a minor capital project. Staff proposes to complete the work under a new major capital project authorized through this action and will cancel the minor capital project.

The scope of construction consists of removing the existing GFRC panels that cover the entrance columns of the Jensen plant's Administration Building and replacing them with new panels. The new panels have an upgraded material specification that reduces the likelihood of future cracking, an increased strength requirement, and new panel connection details. Metropolitan force activities will include coating the entrance columns.

A total of $530,000 is allocated for this work. In addition to the contract amount, allocated funds include $100,000 for final design, field investigations, material testing, and other technical support; and $27,000 for Metropolitan force activities described above. Other funds to be allocated include $45,000 for construction management and inspection; $14,000 for contract administration, environmental monitoring support, and project management; $21,000 for submittals reviews and preparation of record drawings; and $41,100 for remaining budget.

Attachment 1 provides the allocation of the required funds. The total estimated cost to complete the GFRC panel replacement, including the amount allocated to date, and funds allocated for the work described in this action, is $530,000.

Award of Construction Contract (MMJ Contracting Inc.)

Specifications No. M-3061 for the construction of the Jensen GFRC panel replacement was advertised on January 25, 2023. As shown in **Attachment 2**, two bids were received and opened on March 2, 2023. The low bid from MMJ Contracting Inc. in the amount of $281,900 complies with the requirements of the specifications. The higher bid was $294,400. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 25 percent of the bid amount. MMJ Contracting Inc. is an SBE firm, and thus achieves 100 percent participation.

As described above, Metropolitan staff will perform construction management and inspection. The total cost of construction for this project is $308,900, which includes the amount of the contract ($281,900) and Metropolitan force activities (27,000). Engineering Services' performance metric target range for inspection of projects with construction less than $3 million is 12 to 15 percent. For this project, the performance metric for inspection is 14.6 percent of the total construction cost.

Project No. 2 – Skinner Chemical Storage Tank Replacement – Design and Procurement

Located within the city of Winchester, the Skinner plant was placed into service in 1976, has a treatment capacity of 350 MGD, and normally treats a blend of water from the Colorado River and SWP.

The Skinner plant relies on two cross-linked high-density polyethylene (HDPE) tanks for the storage of sodium hypochlorite, which serves as initial backup disinfection to ozone treatment and ensures that primary disinfection requirements are continuously met during unexpected events such as power outages. The tanks are 10 feet in

diameter and 12 feet tall, with a storage capacity of 6,250 gallons each. These tanks have a recommended service life of 15 years and have been in service since 2007. Recent inspections, conducted after the current CIP was authorized by the Board, discovered leakage from a propagating crack in one of the two tanks. The tank's leak has been repaired on a temporary basis; however, staff recommends that both tanks be replaced at the earliest possible time to enhance plant reliability. Consequently, staff is recommending that this project be added to the current CIP at this time instead of waiting to conduct this project once the new biennium CIP takes effect in July 2024.

This project will replace the two existing sodium hypochlorite tanks with tanks of the same size constructed of extrusion-molded linear HDPE, which provides improved structural properties. Planned design and procurement phase activities include the preparation of drawings and specifications for procurement and installation of two sodium hypochlorite storage tanks and manufacture and inspection of tanks and other required tank farm infrastructure. The tank procurement contract is planned to be awarded under the General Manager's authority. All other construction work, including the installation of the tanks, will be performed by Metropolitan staff.

A total of $600,000 is required for this action. Allocated funds include $57,000 for field investigations; $98,000 for design activities as described above; $230,000 for tank and instrumentation procurement; $60,000 for fabrication inspection; $90,000 for environmental support and project management; and $65,000 for remaining budget. **Attachment 1** provides the Allocation of Funds. The total estimated cost to complete this project, including the funds allocated for the work described in this action, and future construction costs, is anticipated to range from $1.35 million to $1.5 million. The total estimated construction cost for this project is anticipated to range from $700,000 to $800,000, which includes procurement of the tanks. The final design cost as a percentage of the total estimated construction cost is approximately 14.0 percent. Engineering Services' goal for design of projects with construction cost less than $3 million is 9 to 15 percent.

Project No. 3 - Auld Valley and Red Mountain Control Structures Upgrades – Design and Construction

Flows to the San Diego Pipeline No. 3 and San Diego Pipeline No. 5 are regulated at the Auld Valley Control Structure and the Red Mountain Control Structure, respectively. The configurations of these control structures are similar. Each control structure includes two 66-inch-diameter pipes, which are each fitted with two 42-inch diameter throttling sleeve valves. These valves are used to regulate flows within the pipelines. The Auld Valley Control Structure was built in 1975, while the Red Mountain Control Structure was constructed in 1981.

Recent inspections of the control structures, which were conducted after the current CIP was authorized by the Board, have found that the sleeve valves have extensive wear and tear and require rehabilitation. One of the valves on the Red Mountain Control Structure was discovered to be structurally compromised. Staff attempted to repair the valve, but the deterioration was beyond repair. Isolation bulkheads were utilized in the interim to resume operation of the Red Mountain Control Structure at reduced flows. The other sleeve valve at the Red Mountain Control Structure was refurbished under the Minor Capital Program in 2022. Staff recommends replacing the severely deteriorated valve with a new valve at the Red Mountain Control Structure and refurbishment of the two sleeve valves at the Auld Valley Control Structure.

The original design of the control structures did not include isolation valves, and, as a result, the San Diego Pipelines Nos. 3 and 5 cannot be operated without the sleeve valves in service. A complete shutdown of these pipelines is required whenever one of the sleeve valves needs to be removed for maintenance. Staff recommends installation of eight new butterfly valves upstream and downstream of the sleeve valves at the Auld Valley and Red Mountain Control Structures to allow for isolation to enable the pipelines to remain in service during maintenance of the sleeve valves. Staff recommends that work to rehabilitate the remaining three sleeve valves begin at the earliest possible time to enhance facility reliability. Consequently, staff is recommending that this project be added to the current CIP at this time instead of waiting to conduct this project once the new biennium CIP takes effect in July 2024.

Planned work will include replacement of a sleeve valve at the Red Mountain Control Structure; refurbishment or replacement of two sleeve valves on the Auld Valley Control Structure; and installation of eight 42-inch diameter isolation butterfly valves, four at each of the control structures.

Planned design activities include: (1) preparation of procurement documents for one sleeve valve for the Red Mountain Control Structure, which was found to be beyond repair; (2) performing alternative evaluations for

refurbishment or replacement of sleeve valves for the Auld Valley Control Structure; and (3) conducting field investigations, performing topographic survey and mapping, geotechnical analysis, and site layouts for installation of the isolation valves at both control structures.

A total of $550,000 is required for this action. Allocated funds include $420,000 for the design activities described above; $80,000 for project management and project controls; and $50,000 for remaining budget. **Attachment 1** provides the Allocation of Funds. The total estimated cost to complete the project, including funds allocated for the work described in this action, and future procurement and construction costs, is anticipated to range from $13 million to $15 million. Staff will return to the Board at a later date to award the construction contract.

Alternatives Considered

Staff considered replacing the GFRC panels with concrete instead of replacing them in kind. This alternative would increase the design load of the columns**,** requiring design revisions and potential modifications to the columns. This alternative would also result in increased cost and complexity to the project. The selected alternative allows the panels to be replaced in a short time without modifications to the existing building structure.

Staff considered incorporating the Skinner chemical storage tank replacement project into the next biennial CIP budget. However, this would extend the project completion date beyond the current service life of the equipment and would not address the existing damage in one of the tanks. Utilizing a single tank reduces operational flexibility and increases chemical delivery costs. Additionally, the remaining sodium hypochlorite tank was installed at the same time as the repaired tank, so staff recommends replacing both tanks at this time.

Staff considered not including new isolation valves in the project scope for the upgrades to the Auld Valley and Red Mountain Control Structures. The current practice for isolation of an individual sleeve valve on these control structures requires that the main pipeline be removed from service. If the sleeve valve requires significant repairs, a steel bulkhead must be installed to return the main pipeline to service at reduced flows. Significant cutting and welding activities are required to install a steel bulkhead in the 66-inch diameter pressure control line. To return the main pipeline to full capacity, the pipeline must be shut down and the steel bulkhead removed. The existing process is difficult and time-consuming and requires lengthy flow reductions on the main pipelines. The selected alternative to install isolation valves under this project will eliminate the cutting and welding process required to isolate a sleeve valve. Staff also considered incorporating the rehabilitation of the Auld Valley and Red Mountain Control Structures into the next biennial CIP budget. However, this would delay the procurement of the isolation valves which require 18 months to fabricate and deliver to the Skinner plant. Including the rehabilitation of the Auld Valley and Red Mountain Control Structures in the CIP will now allow for completion of the project in early 2025 and proactively improves water delivery reliability to member agencies receiving water from San Diego Pipeline Nos. 3 and 5.

Summary

This action amends the current CIP to include three new rehabilitation projects, and awards a $281,900 contract to MMJ Contracting Inc. to replace the GFRC panels in the entrance columns of the Jensen Administration Building. These projects have been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal years 2022/23 and 2023/24 capital expenditure plan. See **Attachment 1** for the Allocation of Funds, **Attachment 2 for** the Abstract of Bids, **Attachment 3** for the List of Subcontractors, and **Attachment 4** for the Location Map.

Project Milestones

March 2024 – Complete construction of Jensen GFRC panel replacement

May 2024 – Complete field investigations and sleeve valve alternative analysis of Red Mountain and Auld Valley Control Structures

November 2024 – Complete procurement of Skinner sodium hypochlorite tanks

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Section 8140: Competitive Procurement

By Minute Item 52778, dated April 12, 2022, the Board appropriated a total of $600 million for projects identified in the Capital Investment Plan for Fiscal Years 2022/2023 and 2023/2024.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action to amend the Capital Investment Plan is not defined as a project under CEQA (State CEQA Guidelines Section (Sections 15378(b)(2) and 15378(b)(4) of the State CEQA Guidelines)) because it involves the creation of a general funding mechanism and general policy and procedure making with no commitment to proceed with any specific project at this time. The design and construction associated with the Jensen Administration Column Panel Replacement, and design, procurement, and construction of the Auld Valley and Red Mountain Control Structures Upgrades and the Skinner Chemical Storage Tanks is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The overall activities involve the funding, design, minor alterations, and replacement of existing public facilities with negligible or no expansion of use and no possibility of significantly impacting the physical. Accordingly, the proposed action qualifies under Class 1, Class 2, and Class 6 (Sections 15301, 15302, and 15306) of the State CEQA Guidelines.

CEQA determination for Option #2:

None required

Board Options

Option #1

a. Amend the Capital Investment Plan for fiscal years 2022/2023 and 2023/2024 to include the Jensen Administration Building Column Panel Replacement, Skinner Chemical Storage Tank Replacement, and the upgrades to the Auld Valley and Red Mountain Control Structures; and
b. Award a $281,900 contract to MMJ Contracting Inc. to replace the GFRC panels in the entrance columns of the Jensen Administration Building.

Fiscal Impact: Expenditure of $1.68 million in capital funds. Approximately $1.40 million will be incurred in the current biennium. The remaining capital funds will be funded from future CIP budgets, following board approval of these budgets. It is not anticipated that the addition of the projects listed above to the CIP will increase CIP expenditures in the current biennium beyond those which have been previously approved by the Board.

Business Analysis: This option will enhance safety and operational resiliency at the Skinner plant, address required replacement of the column panels at the Jensen plant's administration building, and maintain the operational reliability of water deliveries to member agencies with connections to San Diego Pipeline Nos. 3 and 5.

Option #2

Do not proceed with the projects at this time.

Fiscal Impact: None

Business Analysis: This option will forego an opportunity to address required replacement of the column panels at the Jensen plant administration building, enhance safety and operational resiliency at the Skinner plant, and maintain the reliability of service to those member agencies with connections to San Diego Pipeline Nos. 3 and 5 and decrease the risk of costly urgent repairs to the pipelines.

Staff Recommendation

Option #1

5/18/2023

John V. Bednarski *Date*
Manager/Chief Engineer
Engineering Services

5/22/2023

Adel Hagekhalil *Date*
General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – Subcontractors for Low Bidder

Attachment 4 – Location Map

Ref# es12686941

Allocation of Funds for Jensen Administration Building Column Panel Replacement

	Current Board Action (Jun. 2023)
Labor	
Investigations & Conceptual Design	$ -
Final Design	100,000
Owner Costs (Program mgmt., envir. monitoring)	14,000
Submittals Review & Record Drwgs.	21,000
Construction Inspection & Support	45,000
Metropolitan Force Construction	27,000
Materials & Supplies	-
Incidental Expenses	-
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
MMJ Contracting Inc.	281,900
Remaining Budget	41,100
Total	**$ 530,000**

The total amount expended to date replace the glass fiber reinforced concrete panels at Jensen administration building entrance columns is approximately $100,000. The total estimated cost to complete this project, including the amount initially charged to the minor capital project, and funds allocated for the work described in this action is $530,000.

Allocation of Funds for Skinner Chemical Storage Tanks Replacement

	Current Board Action (Jun. 2023)
Labor	
Investigations & Conceptual Design	57,000
Final Design	98,000
Owner Costs (Program mgmt., envir. monitoring)	90,000
Submittals Review & Record Drwgs.	-
Construction Inspection & Support	60,000
Metropolitan Force Construction	-
Materials & Supplies	230,000
Incidental Expenses	-
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
Remaining Budget	65,000
Total	**$ 600,000**

This is the initial action for the Skinner Chemical Storage Tanks Replacement project. The total estimated cost to complete this project, including the funds allocated for the work described in this action, and future construction costs, is anticipated to range from $1.35 million to $1.5 million.

Allocation of Funds for the Auld Valley and Red Mountain Control Structures Upgrades

	Current Board Action (Jun. 2023)
Labor	
Investigations & Conceptual Design	$ 420,000
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	80,000
Submittals Review & Record Drwgs.	-
Construction Inspection & Support	-
Metropolitan Force Construction	-
Materials & Supplies	-
Incidental Expenses	-
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
Remaining Budget	50,000
Total	**$ 550,000**

This is the initial action for the Auld Valley and Red Mountain Control Structures Upgrades project. The total estimated cost to complete this project, including the funds allocated for the work described in this action, and future procurement and construction costs, is anticipated to range from $13 million to $15 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on March 2, 2023, at 2:00 P.M.

Specifications No. M-3061
Jensen Administration Building Entrance
Glass Fiber Reinforced Concrete Panel Replacement

The work includes steel reinforcement and replacement of deteriorated Glass Fiber Reinforced Concrete Panels.

Engineer's estimate: N/A[2]

Bidder and Location	Total	SBE $	SBE %	Met SBE[1]
MMJ Contracting Inc. Hacienda Heights, CA	**$281,900**	**$281,900**	**100%**	**Yes**
JT Construction Group Inc. Glendale, CA	$294,400	-	-	-

1 Small Business Enterprise (SBE) participation level established at 25% for this contract.
2 An engineer's estimate is not prepared for minor capital projects.

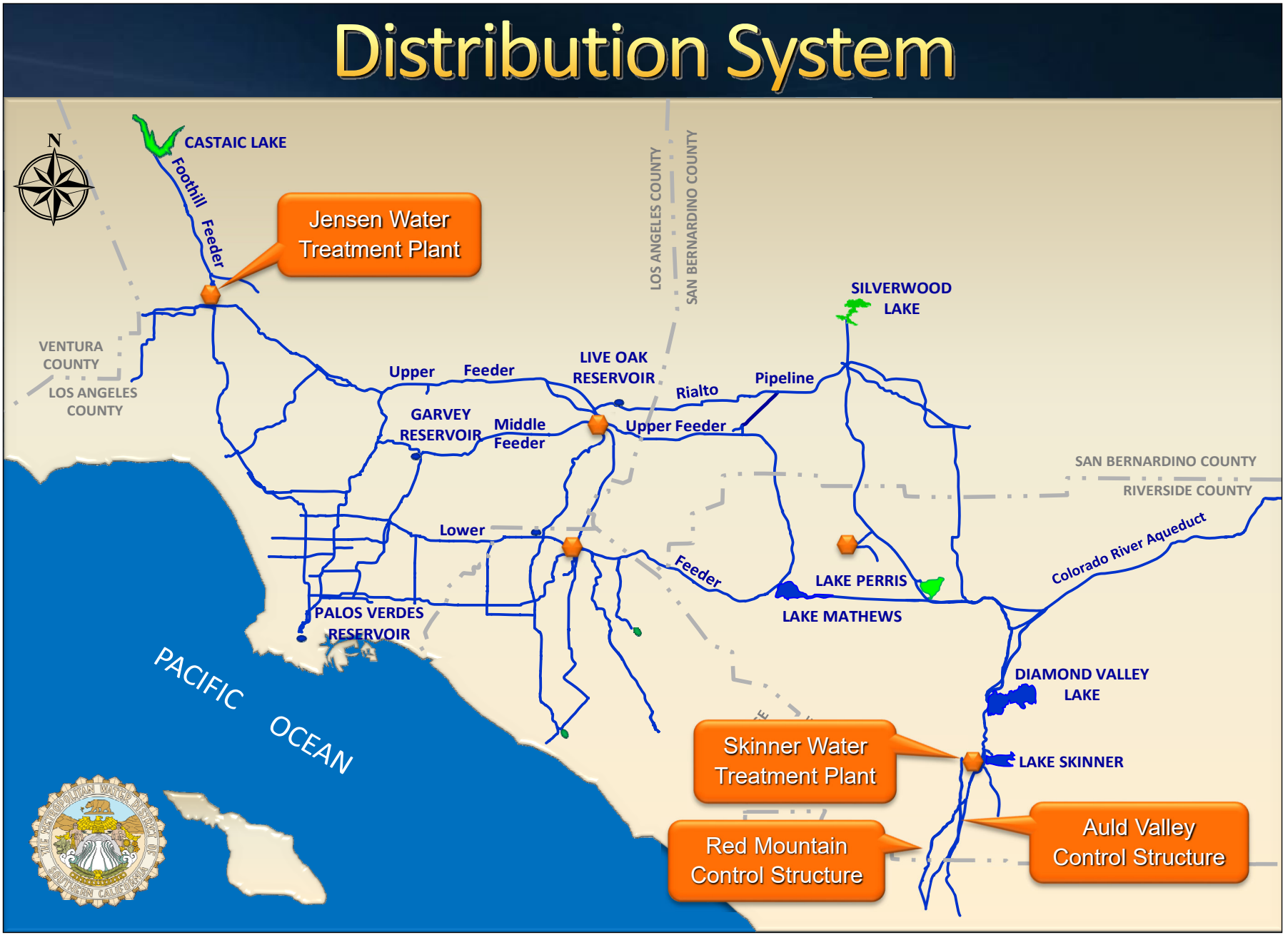
The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

Specifications No. M-3061
Jensen Administration Building Entrance
Glass Fiber Reinforced Concrete Panel Replacement

Low bidder: MMJ Contracting Inc.

Subcontractor	Service Category; Specialty
Asbestos Instant Response Inc. dba Air Demolition & Environ. Solutions Los Angeles, CA	Demolition and Abatement
Meridian Precast Inc. Los Angeles, CA	GFRC Precast Panel Manufacturer and Installer


Distribution System
N
CASTAIC LAKE
Foothill Feeder
Jensen Water Treatment Plant
LOS ANGELES COUNTY
SAN BERNARDINO COUNTY
SILVERWOOD LAKE
VENTURA COUNTY
LOS ANGELES COUNTY
Upper Feeder
LIVE OAK RESERVOIR
Rialto Pipeline
GARVEY RESERVOIR
Middle Feeder
Upper Feeder
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
Lower Feeder
Colorado River Aqueduct
LAKE PERRIS
LAKE MATHEWS
PALOS VERDES RESERVOIR
PACIFIC OCEAN
DIAMOND VALLEY LAKE
Skinner Water Treatment Plant
LAKE SKINNER
Red Mountain Control Structure
Auld Valley Control Structure